Amendments to the Claims:

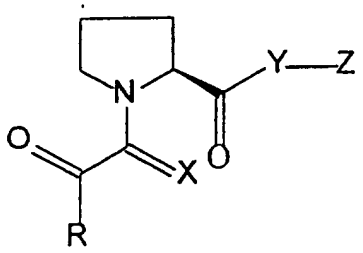
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-24. (Canceled).

25. (Currently amended) A pharmaceutical composition comprising:

(i) an amount ranging from 0.1 mg to 10,000 mg of a first hair revitalizing compound of formula I:



I

or a pharmaceutically acceptable salt or hydrate thereof, wherein

R is selected from the group consisting of a C_1-C_9 straight or branched chain alkyl or C_2-C_9 straight or branched chain alkenyl, C_3 or C_5 cycloalkyl, C_5-C_7 cycloalkenyl, and Ar_1,

wherein said alkyl or alkenyl is optionally substituted with C_3-C_8 cycloalkyl, C_1-C_4 alkyl, C_2-C_4 alkenyl, or hydroxy,

wherein said cycloalkyl or cycloalkenyl is optionally substituted with C_1-C_4 alkyl, C_2-C_4 alkenyl, or hydroxy,

Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar_1 has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1-C_6 straight or branched alkyl or C_2-C_6 straight or branched alkenyl, C_1-C_4 alkoxy or C_2-C_4 alkenyloxy, phenoxy, benzyloxy, and amino;

X is selected from the group consisting of oxygen, sulfur, methylene, and H_2;

Y is selected from the group consisting of oxygen and NR_2, where R_2 is hydrogen or C_1-C_6 alkyl; and

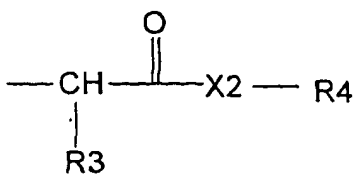
Z is selected from the group consisting of C_2-C_6 straight or branched chain alkyl or C_2-C_6 straight or branched chain alkenyl, and Ar_2,

wherein the C_2-C_6 straight or branched alkyl is substituted in one or more positions with Ar_1 as defined above, C_3-C_8 cycloalkyl, or cycloalkyl connected by a C_1-C_6 alkyl or C_2-C_6 alkenyl;

Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar_2 has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1-C_6 straight or branched alkyl or C_2-C_6 straight or branched alkenyl, C_1-C_4 alkoxy or C_2-C_4 alkenyloxy, phenoxy, benzyloxy, and amino;

or Z is a fragment having the following formula:



wherein

R_3 is a C_1-C_9 straight or branched alkyl or unsubstituted Ar_1, wherein said C_1-C_9 straight or branched alkyl is optionally substituted with C_3-C_8 cycloalkyl or Ar_1 as defined above;

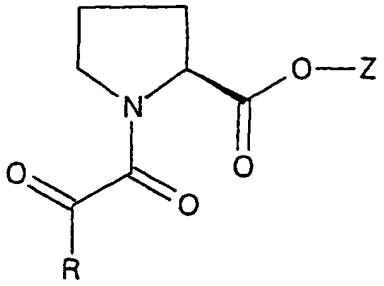
X_2 is O or NR_5, where R_5 is selected from the group consisting of hydrogen, C_1-C_6 straight or branched alkyl, and C_2-C_6 straight or branched alkenyl; and

R_4 is selected from the group consisting of phenyl, benzyl, C_1-C_5 straight or branched alkyl or C_2-C_5 straight or branched alkenyl, and C_1-C_5 straight or branched alkyl or C_2-C_5 straight or branched alkenyl substituted with phenyl;

(ii) a second hair revitalizing compound; and

(iii) a pharmaceutically acceptable carrier.

26. (Previously presented) The pharmaceutical composition of claim 25 wherein the compound is of formula II:



II

or a pharmaceutically acceptable salt or hydrate thereof, wherein

R is a C_1-C_9 straight or branched chain alkyl or C_2-C_9 straight or branched chain alkenyl C_3 or C_5 cycloalkyl, C_5-C_7 cycloalkenyl, or Ar_1,

wherein said C_1-C_9 straight or branched chain alkyl or C_2-C_9 straight or branched chain alkenyl is optionally substituted with C_3-C_8 cycloalkyl, C_1-C_4 alkyl, C_2-C_4 alkenyl, or hydroxy,

wherein said cycloalkyl or cycloalkenyl is optionally substituted with C_1-C_4 alkyl, C_2-C_4 alkenyl, or hydroxy;

Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar_1 has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1-C_6 straight or branched alkyl or C_2-C_6 straight or branched alkenyl, C_1-C_4 alkoxy or C_2-C_4 alkenyloxy, phenoxy, benzyloxy, and amino;

Z is a C_2-C_6 straight or branched chain alkyl or C_2-C_6 straight or branched chain alkenyl, C_3-C_8 cycloalkyl, cycloalkyl connected by a C_1-C_6 alkyl or C_2-C_6 alkenyl, or Ar_2,

wherein said C_2-C_6 straight or branched alkyl chain is substituted in one or more positions with Ar_1,

Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar_2 has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1-C_6 straight or branched alkyl or C_2-C_6 straight or branched alkenyl, C_1-C_4 alkoxy or C_2-C_4 alkenyloxy, phenoxy, benzyloxy, and amino.

27. (Previously presented) The pharmaceutical composition of claim 25 wherein the compound is selected from the group consisting of:

3-phenyl-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-prop-2-(E)-enyl (2*S*)-1-(3,3,-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-prop-2-(E)-enyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-propyl (2*S*)-1-(3,3, dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-prop-2-(E)-enyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

(1R)-1,3-diphenyl-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(1,2-dioxo-2-[2-furanyl])ethyl-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(1,2-dioxo-2-[2-thienyl])entyl-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(1,2-dioxo-2, phenyl)ethyl-2-pyrrolidinecarboxylate,

3-(2,5-dimethoxyphenyl)-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(2,5-dimethoxyphenyl)-1-prop-2-(E)-enyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

2-(3,4,5-trimethoxyphenyl)-1-ethyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(2-Pyridyl)-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-

pyrrolidinecarboxylate,

3-(4-Pyridyl)-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(2-*tert*-butyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2*S*)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2*S*)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2*S*)-1-(2-*tert*-butyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3,3-diphenyl-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2*S*)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2*S*)-N-([2-thienyl]glyoxyl) pyrrolidinecarboxylate,

3,3-Diphenyl-1-propyl (2*S*)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-pyrrolidinecarboxylate,

3,3-Diphenyl-1-propyl (2*S*)-1-cyclohexylglyoxyl-2-pyrrolidinecarboxylate, and

3,3-Diphenyl-1-propyl (2*S*)-1-(2-thienyl)glyoxyl-2-pyrrolidinecarboxylate,

or a pharmaceutically acceptable salt, hydrate, or mixture thereof.

28. (Withdrawn) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.

29. (Withdrawn) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

30. (Withdrawn) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.

31. (Withdrawn) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.

32. (Withdrawn) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

33. (Withdrawn) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.

34. (Withdrawn) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.

35. (Withdrawn) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

36. (Withdrawn) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.

37. (Withdrawn) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.

38. (Withdrawn) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

39. (Withdrawn) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.

40. (Withdrawn) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.

41. (Withdrawn) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

42. (Withdrawn) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.